

CLAIMS

What is claimed is:

1 1. A tape cartridge, comprising:
2 a housing;
3 a reel rotatably disposed in the housing;
4 a reel lock operative between a first position in which the reel is locked and a
5 second position in which the reel is unlocked;
6 one of the housing or the reel lock having an insert and the other of the
7 housing or the reel lock having a receiver, the insert sized and shaped to fit closely
8 into the receiver and the insert slidable in the receiver; and
9 a damper operatively coupled between the housing and the reel lock when
10 the reel lock is in the second position.

1 2. The tape cartridge of Claim 1, wherein the damper is affixed to or
2 integral with the housing.

1 3. The tape cartridge of Claim 1, wherein the damper is affixed to or
2 integral with the reel lock.

1 4. The tape cartridge of Claim 1, wherein the damper comprises a
2 resilient pad pressed between the housing and the reel lock when the reel lock is in
3 the second position.

1 5. The tape cartridge of Claim 1, wherein the damper is operatively
2 coupled between the housing and the reel lock when the reel lock is in the first
3 position, and the damper is operatively coupled between the housing and the reel
4 lock when the reel lock is in the second position.

1 6. The tape cartridge of Claim 4, wherein the resilient pad comprises an
2 elastomeric pad.

1 7. The tape cartridge of Claim 4, wherein the resilient pad is affixed to or
2 integral with the housing.

1 8. The tape cartridge of Claim 4, wherein the resilient pad is affixed to or
2 integral with the reel lock.

1 9. The tape cartridge of Claim 4, wherein the resilient pad is affixed to or
2 integral with the insert.

1 10. The tape cartridge of Claim 4, wherein the resilient pad is affixed to or
2 integral with the receiver.

1 11. A tape cartridge, comprising:
2 a housing;
3 a reel rotatably disposed in the housing;
4 a tape drive interface on the reel, the tape drive interface accessible through
5 the housing and configured to drivingly couple the reel to a tape drive;
6 a rotatably fixed locking member movable between a locked position in which
7 the locking member engages the reel to prevent rotation of the reel and an unlocked
8 position in which the locking member does not engage the reel and the reel is free to
9 rotate; and
10 a damper operatively coupled between the housing and the locking member
11 when the locking member is in the unlocked position.

1 12. The tape cartridge of Claim 11, further comprising an actuator
2 operative to engage the locking member, the actuator including a release
3 mechanism engagable by the tape drive at the tape drive interface, the release
4 mechanism movable between a first position in which the release mechanism is not
5 engaged by the tape drive and the locking member is locked and a second position
6 in which the tape drive engages the release mechanism and the locking member is
7 unlocked.

1 13. The tape cartridge of Claim 12, wherein the actuator further comprises
2 a biasing mechanism urging the locking member towards the locked position.

1 14. The tape cartridge of Claim 11, wherein the damper comprises a
2 resilient pad pressed between the housing and the locking member when the locking
3 member is in the unlocked position.

1 15. A tape cartridge, comprising:
2 a housing;
3 a reel rotatably disposed in the housing;
4 a first gear operatively coupled to the reel; and
5 a second gear rotationally fixed to the housing, the second gear having a front
6 part facing the first gear and a back part opposite the front part, the second gear
7 movable between
8 a first position in which teeth on the front part of the second gear
9 engage the first gear and the second part of the second gear is spaced apart
10 from the housing, and
11 a second position in which the first part of the second gear is spaced
12 apart from the first gear and the second part of the second gear resiliently
13 contacts the housing.

1 16. The tape cartridge of Claim 15, further comprising holes through the
2 first gear, the holes positioned near a periphery of the first gear, and a washer
3 operatively coupled to the first gear, the washer interposed between the first gear
4 and the second gear and the washer having legs projecting into the holes in the first
5 gear.

1 17. The tape cartridge of Claim 15, further comprising a resilient pad
2 between the second part of the second gear and the housing.

1 18. A tape cartridge, comprising:
2 a housing;

3 a reel rotatably disposed in the housing, the reel having an annular hub
4 around a center of rotation of the reel and spaced apart parallel flanges extending
5 out from the hub;

6 a first gear on the bottom of the reel, the first gear having gear teeth on a
7 bottom side, locking projections projecting from a top side, and holes therethrough
8 positioned at the location of gaps between first gear teeth;

9 a second gear rotationally fixed to the housing, the second gear having
10 second gear teeth engagable with the projections on the first gear;

11 a washer interposed between the first gear and the second gear, the washer
12 having legs projecting into the holes in the first gear and the washer bearing on the
13 second gear at the center of rotation of the reel;

14 the second gear movable between a locked position in which the second gear
15 engages the projections to prevent rotation of the reel and an unlocked position in
16 which the second gear does not engage the projections and the reel is free to rotate;

17 the washer movable between a first position in which the legs of the spider
18 washer extend down into gaps between first gear teeth and the second gear is in the
19 locked position and a second position in which the legs of the washer do not extend
20 down into gaps between first gear teeth and the second gear is in the unlocked
21 position; and

22 a vibration damper interposed between the second gear and the housing.

1 19. The cartridge of Claim 18, wherein:

2 the housing includes a projecting insert slidable in a receiver on the second
3 gear; and

4 the vibration damper comprises a resilient pad affixed to the housing or the
5 second gear, the resilient pad being pressed between the receiver and the housing
6 when the second gear is in the unlocked position.

1 20. A tape cartridge, comprising:

2 a housing;

3 a reel rotatably disposed in the housing;

4 a locking means for preventing the reel from rotating;

5 a damper means for damping vibration in the locking means.

1 21. The tape cartridge of Claim 20, wherein the locking means bears on
2 the housing and the damper means comprises means for damping vibration in the
3 locking means and means for insulating the housing against vibration in the locking
4 means.

1 22. The tape cartridge of Claim 21, wherein the damper means comprises
2 a resilient pad interposed between the locking means and the housing.